



UNITED STATES PATENT AND TRADEMARK OFFICE

mn

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,030	08/27/2003	Mitchell Paul Tasman	BBNT-P01-248	5116
28120 7590 05/17/2007 FISH & NEAVE IP GROUP ROPES & GRAY LLP ONE INTERNATIONAL PLACE BOSTON, MA 02110-2624			EXAMINER BOUTAH, ALINA A	
			ART UNIT 2143	PAPER NUMBER
			MAIL DATE 05/17/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/649,030	Applicant(s) TASMAN ET AL.	
	Examiner Alina N. Boutah	Art Unit 2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-34, 36-38 and 45-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-34, 36-38 and 45-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to Applicant's amendment filed March 12, 2007. Claims 1-12, 14-34, 36-38 and 45-50 are pending in the rejection.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 12, 2007 has been entered.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the term "computer-readable medium" was not mentioned anywhere in the disclosure.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2143

Claims 1, 14, 25, 26, 28, 32, 38 rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: “determining if the second network interface is different from the first network interface.”

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12, 14-34, 36-38 and 45-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,683,885 issued to Sugai et al. (hereinafter referred to as Sugai) in view of USPN 6,769,043 issued to Fedorkow in further view of US 2004/0202164 to Hooper.

Regarding claim 1, Sugai teaches method for transmitting data units from a node in a communications network, the node including a plurality of network interfaces, plurality of network interfaces being associated with respective transmission queues, the method comprising:

identifying one of the one or more network interfaces for transmitting a first data unit (abstract; col. 3, lines 17-45; figure 1);

storing the first data unit in a queue of the at least one queue associated with the identified network interface (figure 2: route table);

Art Unit: 2143

retrieving, for the identified network interface, the first data unit from the queue associated with the identified network interface (col. 6, lines 45-56);

determining one of the one or more network interfaces from which the first data unit is to be transmitted (figure 1; col. 5, lines 15-29); and

forwarding the data unit to the determined network interface for transmission when the determined network interface is the identified network interface (figure 1; col. 5, lines 15-29).

However, Sugai does not explicitly teach storing data in transmission queues associated with the first network interface and second network interfaces, respectively, and in response to determining that the second network interface is different from the first network interface, forwarding the data unit to the second network interface for transmission. In an analogous art, Fedorkow teaches storing data in transmission queues associated with the first network interface and second network interfaces, respectively (abstract, figure 2).

In another analogous art, Hooper teaches in response to determining that the second network interface is different from the first network interface, forwarding the data unit to the second network interface for transmission [0029].

At the time the invention was made, one of ordinary skill in the art would have been motivated to transmit data in a different interface rather than the interface that was previously assigned in order to ensure that data will get to its destination with minimum delay.

Art Unit: 2143

Regarding claim 2, although Sagai does not explicitly teach the method of claim wherein the communications network is an ad hoc network, one of ordinary skill in art would have recognized that this feature is well known in the art (see background of Applicant's specification).

Regarding claim 3, Sugai teaches the method of claim 1 further comprising: determining, prior to storing the first data unit, whether the first data unit is a multicast data unit (col. 5, line 15-29).

Regarding claim 4, Sugai teaches the method of claim 3 further comprising: determining, when the first data unit is not a multicast data unit (col. 5, line 15-29), a priority for the first data unit (col. 2, lines 53-59); and storing the first data unit in a sub-queue within transmission queue associated with the first network interface based on the determined priority (col. 7, lines 6-25).

Regarding claim 5, Sugai teaches the method of claim 3 further comprising: determining, when the first data unit is a multicast data unit, a priority for the first data unit (col. 5, lines 15-29); and storing the first data unit in a sub-queue within transmission queue associated with each of the plurality of network interfaces based on the determined priority (col. 7, lines 6-25).

Regarding claim 6, Sugai teaches the method of claim 3 further comprising: determining, when the first data unit is a multicast data unit, a priority for the first data unit (col. 5, lines 15-29); and storing the first data unit in a sub-queue within transmission queue associated with at least plurality of network interfaces based on the determined priority (col. 7, lines 6-25).

Regarding claim 7, Sugai teaches the method of claim 3 wherein, when the first data unit is a multicast data unit, identifying the second network interface includes: identifying a next node to receive the first data unit from a list of next nodes, and identifying the second network interfaces based on the identified next node (col. 5, lines 15-25 and col. 7, lines 6-25).

Regarding claim 8, Sugai teaches the method of claim 7, wherein in response to determining that the first network interface is same as the second network interface, storing, a copy of the first data unit in the transmission queue associated with the second network interface and recording a current position in the list of next nodes (figures 10 and 12).

Regarding claim 9, Sugai teaches the method of claim 7 further comprising: dropping the first data unit when no next node is identified from the list of next nodes (col. 2, lines 53-59).

Art Unit: 2143

Regarding claim 10, Sugai teaches the method of claim 1 further comprising: assigning a sequence number to the first data unit, and wherein the storing the first data unit includes: storing the sequence number with the first data unit in the output queue associated with the first network interface (figure 3).

Regarding claim 11, Sugai teaches the method of claim 10 further comprising: in response to determining that the first network interface is different than the second network interface, storing the first data unit in a transmission queue associated with the second network interface (figure 6).

Regarding claim 12, Sugai teaches the method of claim 11 wherein the storing the first data unit in the transmission queue associated with the second transmission interface includes: storing the first data unit in the transmission queue associated with the second transmission interface based on the sequence number assigned to the first data unit (figure 8).

Claims 14-24 are similar to claims 1, 3, 4, 5, 7, 8, 13, 10, 11, 12 and 6, respectively, therefore are rejected under the same rationale.

Claim 25 is similar to claim 1, therefore is rejected under the same rationale.

Art Unit: 2143

Claims 26 and 27 are similar to claims 14 and 24, therefore are rejected under the same rationale.

Claim 28 is similar to claim 1, therefore is rejected under the same rationale.

Regarding claim 29, Sugai teaches the method of claim 28 further comprising: storing the data unit in a transmission queue associated with the first network interface (figure 2); and subsequent to identifying the second network interface, storing the data unit in a transmission queue associated with the second network interface (figure 2).

Regarding claim 30, Sugai teaches the method of claim 28 further comprising: determining whether the data unit is a multicast data unit; and storing, when the data unit is a multicast data unit, the data unit in a transmission queue associated with each of the plurality of network interfaces (col. 5, line 15-29).

Regarding claim 31, Sugai teaches the method of claim 28 wherein the data unit is a multicast data unit, and wherein the method further comprises: storing, for each neighboring node, information indicating whether the multicast data unit has been transmitted to that neighboring node (col. 7, lines 6-25).

Art Unit: 2143

Claims 32-34 are similar to claims 28-30, therefore are rejected under the same rationale.

Regarding claim 36, although Sugai does not explicitly teach the network device of claim 32 wherein the plurality of network interfaces are configured to transmit the data units via a wireless link, it would be obvious to one of ordinary skill in the art at the time the invention was made to employ a wireless link in order to make the network more portable, therefore making the network more efficient.

Claim 37 is similar to claim 31, therefore is rejected under the same rationale.

Claim 38 is similar to claim 32, therefore is rejected under the same rationale.

Claims 45-50 are similar to claims 28-31 therefore are rejected under the same rationale.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alina N. Boutah whose telephone number is 571-272-3908. The examiner can normally be reached on Monday-Friday (9:00 am - 5:00 pm).

Art Unit: 2143

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ANB

ANB


DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100